

Improved rotational matching of sift and surf

Abstract

Scale-Invariant Feature Transform(SIFT) and Speeded-Up Robust Feature(SURF) are common techniques used for extracting robust features that can be used to perform matching between different viewpoints of scenes. Both methods basically involve three main stages, which are feature extraction, orientation assignment and feature descriptor extraction for matching. SURF is computation efficient compared to SIFT because the integral image is used for the convolutions to reduce computation time. However, both methods also do not focus much on the technique of matching. This paper introduces a method which can help to improve the rotational matching performance in term of accuracy by establishing a decision matrix and an approximated rotational angle within two corresponding images. The proposed method generally improved the matching rate around 10% to 20% in terms of accuracy.